

What is claimed is:

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1. An electric circuit of an electric vehicle, said circuit comprising:

(a) a drive-motor;^{6, 2}

(b) a drive-motor driving device;⁴

5 (c) an electric compressor for air-conditioning the vehicle;^{2, 3}

(d) compressor-driving device;⁵

(e) a dc power supply,¹ coupled to respective input terminals of said drive-motor driving device and said compressor-driving device, for powering both of said drive-motor driving device and said compressor-driving device;

10 (f) a smoothing capacitor³ coupled to an input terminal of said drive-motor driving device, and shared by both of said drive-motor driving device and said compressor-driving device;

(g) a radiator⁶ shared by both of said drive-motor driving device and said compressor-driving device; and

15 (h) a case⁷ for shielding electromagnetic wave,

wherein said drive-motor driving device, said compressor-driving device, and said smoothing capacitor are disposed in said case.

2. The electric circuit of claim 1, wherein

20 said dc power supply extends wires to said compressor-driving device for powering, the wires having different lengths in plus (+) and minus (-) for preventing the wires from being reversely connected to said dc power supply.

3. The electric circuit of claim 1, wherein

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said compressor-driving device includes one of a film capacitor and a ceramic capacitor for absorbing a surge voltage, one of the capacitors being coupled between the wires extended from said dc power supply.

4. The electric circuit of claim 1, wherein

5 wires, extended from said dc power supply to said compressor-driving device for powering, includes a shielded-line having a core wire and an outer wire, the core wire and the outer wire supplying power.

5. The electric circuit of claim 1, wherein

10 wires, extended from said dc power supply to said compressor-driving device for powering, includes parallel wires held by bendable resin.

6. The electric circuit of claim 1, wherein

wires, extended from said dc power supply to said compressor-driving device for powering, includes twisted-paired wires.

7. The electric circuit of claim 1, wherein

15 said compressor-driving device includes an inverter-circuit, and a power-line extended from said dc power supply to said compressor-driving device for powering is coupled to an input terminal of the inverter-circuit directly or via a current detector which detects current in the inverter-circuit.

8. The electric circuit of claim 1, wherein

20 said compressor-driving device includes (d-1) driving-device controlling circuit for controlling the driving device; and (d-2) a power supply circuit for obtaining an exclusive control power supply by converting a voltage supplied from said dc power supply, the driving-device controlling circuit using the exclusive control power supply.

25 9. The electric circuit of claim 1, wherein

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said compressor-driving device lowers an output of said compressor-driving device when said drive-motor driving device is heavily loaded.

10. The electric circuit of claim 4, wherein

5 the wires of power lines have different lengths in plus (+) and minus (-) for preventing the wires from being reversely coupled to said dc power supply.

11. The electric circuit of claim 5, wherein

the wires of power lines have different lengths in plus (+) and minus (-) for preventing the wires from being reversely coupled to said dc power supply.

12. The electric circuit of claim 8, wherein

10 said compressor-driving device includes a diode through which current flows when a power-line extended from said dc power supply to said compressor-driving device is normally connected, and a switch disposed in parallel with the diode.

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